

SHMELEV, V. P., Cand Med Sci -- "Radiation effects of bromine-  
82 under ~~the~~ conditions of rarified atmosphere on the chro-  
naxy of the spinal reflex." Ryazan', 1961. (Min of Health  
RSFSR. Ryazan' Med Inst im Acad I. P. Pavlov) (KL, 8-61,  
266)

- 548 -

SHMELEV, Vladimir Pavlovich; USTINOV, A.P., spetsred.; FRISHMAN, Z.S.,  
red.izd-va; DROZHZHINA, L.P., tekhn.red.

[Fuel feeding equipment on modern marine diesel engines] Toplivnaia  
apparatura sovremennoykh sudovykh dizelei. Leningrad, Izd-vo "Morskoi  
transport," 1959. 137 p. (MIRA 13:10)  
(Marine diesel engines--Fuel systems)

SHMELEV, V.P., dots.

Injection process into a battery-type fuel system. Sud.sil.  
(MIRA 15:7)  
ust. no.1:165-175 '61.

1. Kafedra sudovykh dvigateley vnutrennego sgoraniya Leningradskogo  
vysshego inzhenernogo morskogo uchilishcha im. admirala Makarova.  
(Marine diesel engines)

S/0057/64/034/001/0131/0141

ACCESSION NR: AP4009932

AUTHOR: Shmelev, V.P.; Shkarlet, Yu.M.

TITLE: Electromagnetic field of an alternating current loop above a conducting layer

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.1, 1964, 131-141

TOPIC TAGS: electromagnetic field, alternating field, current loop, conducting layer, quasistationary electromagnetic field

ABSTRACT: The field is discussed in certain limiting cases of a circular current of radius  $a$  and frequency  $\omega$  parallel to and at a distance  $h$  from an infinite layer of thickness  $b$ , conductivity  $\sigma$ , and permeability  $\mu$ . The calculations are performed in the quasistationary approximation, i.e., the displacement currents, and thus radiation effects, are neglected. The solution of the problem is obtained by well-known methods in the form of Fourier-Bessel integrals. The field of the circular current in the absence of the conducting layer is expressed (by reference to a collection of problems) in terms of complete elliptic integrals, and expressions in terms of these elliptic integrals and their derivatives are obtained for certain

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ACC.NR: AP4009932

Fourier-Bessel integrals that occur in later expansions. The frequency of the field and the conductivity of the layer occur in the exact solution only through the parameter  $s = \sqrt{4\pi\mu_0\sigma}/c$ . The field is evaluated in the limit  $s = 0$ , corresponding to zero frequency or a non-conductive layer. By means of the relation noted above between certain Fourier-Bessel integrals, certain elliptic integrals, and the field of a free circular current, the field in the limiting  $s = 0$  is expressed as the sum of the fields of an infinite sequence of images. An asymptotic expansion of the field is obtained for large values of the parameter  $s$ . The integrand in the exact solution is expanded simultaneously in powers of  $1/s$  and in powers of  $\exp(-2bs/\sqrt{i})$ , and the resulting Fourier-Bessel integrals are expressed in terms of the elliptic integrals and their derivatives. Seven terms of the double expansion are evaluated in this way. Interpretation of the terms in the asymptotic expansion in terms of reflections from the boundaries of the layer is briefly discussed. Orig.art.has: 46 formulas and 3 figures.

ASSOCIATION: Moskovskiy ordena Lenina energeticheskiy institut (Moscow "Order of Lenin" Power Engineering Institute)

SUBMITTED: 12Nov62

DATE ACQ: 10Feb64

ENCL: OO

SUB CODE: PH

NR REF SOV: 004

OTHER: 001

Card 2/2

SHEMELEV, V. P., Cand of Phys-Math-Sci --- (diss) "On the Possibility  
of the Formation of Metastable Compounds of a Positron with Molecular  
Media,"

Moscow, 1959, 8 pp (Moscow State Univ imeni M. V. Lomonosov • Physics  
Faculty) (KL, 6-60, 121)

21(7)

SOV/139-59-1-3/34

AUTHOR: Shmelev, V. P.

TITLE: Polarization of Radiation from Three-Photon Decay of  
Positronium (Polyarizatsiya izlucheniya pri trekhfotonnoy  
annigilyatsii pozitroniya)PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1959,  
Nr 1, pp 15-24 (USSR)ABSTRACT: Orthopositronium decays with a lifetime of  $1.4 \times 10^{-7}$  sec  
into three photons; parapositronium decays with a  
lifetime of  $1.25 \times 10^{-10}$  sec into two photons. In each  
case, since the photons arise from the mutual annihilation  
of the electron-pair constituting the original positronium  
atom, the laws of energy and momentum conservation imply  
certain relations between the initial positronium energy  
state and the energy, momentum and polarization of the  
resultant photons. After a brief treatment of two-photon  
decay, leading to an approximate non-relativistic  
transition probability for this case, the fully  
relativistic treatment of three-photon decay is presented.  
Using the Dirac four-component wave equation together  
with the usual conservation laws, the following  
expression is obtained for the transition probability

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SOV/139-59-1-3/34

Polarization of Radiation from Three-Photon Decay of Positronium  
from a given positronium initial state, to a final state  
comprising three photons in sub-states  $s$ ,  $s'$ ,  $s''$ :

$$w_s, s', s'' = \frac{1}{3} \frac{\pi^4 a^3 c}{k_0^4 L^9} \left( 1 - \frac{1}{3} s_1 \cdot s_2 \right) x$$

$$x \sum_{\substack{x \\ x' \\ x''}} \frac{|H_{FA}|^2 s s' s''}{x x' x''} \delta(2k_0 - x - x' - x'') \delta_{x+x'+x''}, 0.$$

Here  $L$  is the dimension of a unit cell in phase space,  
 $k_0$  is the initial positronium momentum vector, and  $s_1$ ,  
 $s_2$  are the spins of its constituent electrons;  $x, x', x''$   
are the polarization vectors of the resultant photons and  
 $H_{FA}$  is the interaction Hamiltonian between the initial  
and final states of the whole system; the  $\delta$ -terms  
express momentum conservation and all other symbols have  
their standard significance. The form of  $H_{FA}$  is  
discussed and an example given for a particular case. To  
express the polarization-direction correlations in  
configurational ( $r, \theta, \phi$ ) space use must be made of the  
standard relations:

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SOV/139-59-1-3/34

## Polarization of Radiation from Three-Photon Decay of Positronium

$$\frac{1}{L^3} = \frac{d^3\chi}{8\pi^3}$$

$$\text{and } d^3\chi = \chi^2 \cdot d\chi \cdot \sin \theta \cdot d\phi.$$

Results are presented for: (a) the polarization correlation for any two photons; (b) the directional correlation between any one photon and the initial spin direction. The former shows uniform correlation within the triangle determined by the values  $\chi = k_0$ ,  $\chi' = k_0$ ,  $\chi + \chi' = k_0$ ; the latter (expressed in terms of probability density  $d\sigma/d\theta$ ) climbs steadily to a maximum at  $\theta = 165^\circ$ , dropping sharply to zero at  $\theta = 180^\circ$ . From (a) and (b) all other correlations can in principle be determined. Acknowledgement is made to Professor

Card 3/4 A.A. Sokolov who directed this work.

SOV/139-59-1-3/34

Polarization of Radiation from Three-Photon Decay of Positronium

There are 6 figures and 10 references, 5 of which are  
Soviet and 5 English.

ASSOCIATION: Moskovskiy Ordena Lenina Gosuniversitet imeni  
M.V. Lomonosova (Moscow Order of Lenin State University  
imeni M.V. Lomonosov)

SUBMITTED: April 7, 1958

Card 4/4

S/155/59/000/02/027/036

AUTHOR: Shmelev, V.P.

TITLE: On the Question Concerning the Formation of Metastable Connections  
on Elementary Particles

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki,  
1959, No. 2, pp. 146-148

TEXT: The author considers the calculation of a molecule of the type  
proton - electron - positron. The results are obtained as solution of the  
Schrödinger equation for electron and positron in the field of a fixed  
proton with the charge (+ e). The initial state with the lowest energetic  
level is determined. The wave function and the energy of the initial state  
are determined with a variational method.

The author thanks his scientific director Professor A.A. Sokolov.

There are 14 references : 1 Soviet, 1 Finnish and 12 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova  
(Moscow State University imeni M.V. Lomonosov)

SUBMITTED: March 3, 1959



Card 1/1

21(1)  
AUTHOR:Shmelev, V. P.

sov/56-37-2-19/56

TITLE: An Application of the Variational Method to the Determination  
of the Binding Energy of a Proton-Electron-Positron SystemPERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,  
Vol 37, Nr 2(8), pp 458-466 (USSR)

ABSTRACT: This paper is concerned with the determination of the basic state of a system composed of a proton at rest in the origin of coordinates and an electron and a positron (moving in the field of the proton). The potential energy of this system is defined by:  $U_1 = e^2/r_2 - e^2/r_1 - e^2/r_{12}$ , where  $r_1$  and  $r_2$  denote the distances from the proton to the electron and positron respectively;  $r_{12}$  denotes the distance between electron and positron. The Schroedinger-equation for the basic state takes the form:  $\frac{1}{r_1^2} \frac{\partial}{\partial r_1} (r_1^2 \frac{\partial \psi}{\partial r_1}) + \frac{1}{r_2^2} \frac{\partial}{\partial r_2} (r_2^2 \frac{\partial \psi}{\partial r_2}) + (\frac{1}{r_1} + \frac{1}{r_2}) [\frac{1}{\sin \theta} \frac{\partial}{\partial \theta} (\sin \theta \frac{\partial \psi}{\partial \theta})] + \frac{2m}{\hbar^2} (E - U_1) \psi = 0$ .

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An Application of the Variational Method to the SOV/56-37-2-19/56  
 Determination of the Binding Energy of a Proton-Electron-Positron System

This equation cannot be solved by a separation of variables, but by a variational method. In the second section the Lagrangians and the wave function are determined. The Lagrangian thus obtained is written down explicitly. If

$$r = r_2, \xi = r_1 + r_2, \eta = r_1 - r_2, \text{ the wave function}$$

$\psi(r, \xi, \eta) = \bar{\Phi}(r) F(r, \xi, \eta)$ .  $F$  denotes the function of the basic state of the two-body problem. The solution of the problem is reduced to the substitution of the said Lagrangian into the functional  $E = \iiint L(r, \xi, \eta, \partial\psi/\partial r, \partial\psi/\partial\xi, \partial\psi/\partial\eta, \psi) d\tau$  and to the integration of this expression

over the volume. The result can be expressed by

$$E = \pi^2 \int_0^\infty \left[ \frac{r^2}{2} \frac{d\psi}{dr} \frac{d}{dr} (J\psi) + r\chi(r)\psi^2 \right] dr; \pi^2 \int_0^\infty \psi^2 J r^2 dr = 1,$$

where  $\chi(r)$  is a function of  $r$ . After a transformation

$$E = 4\pi \int_0^\infty \left[ \frac{1}{2} \left( \frac{d\bar{\Phi}}{dr} \right)^2 + \left[ \frac{\chi(r)}{rJ} - \frac{J^2}{8\bar{\Phi}^2} \right] \bar{\Phi}^2 \right] r^2 dr; 4\pi \int_0^\infty \bar{\Phi}^2 r^2 dr = 1$$

is obtained,

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An Application of the Variational Method to the Determination of the Binding Energy of a Proton-Electron-Positron System

sov/56-37-2-19/56

where  $J_r$  represents the total derivative

$J_r \equiv dJ/dr = \partial J/\partial r + \alpha_r \partial J/\partial \alpha + \beta_r \partial J/\partial \beta$ . These equations constitute an isoperimetric problem in variational calculus, which can be reduced to a minimization of the functional

$$S^* = 4\pi \int_0^\infty L^* r^2 dr, \text{ if } L^* = L + \lambda \Phi^2$$

is chosen as the new Lagrangian. The potential thus derived has properties similar to that of the molecular forces which hold together the atomic nuclei in a homeopolar molecule. Hence the forces restraining the positron have quantum character. The solution of this variational problem gives in first approximation  $E = -0.282$  atomic units for the energy level of the system; the ionization energy amounts to 0.032. The system can only decay into a proton and into a positronium atom. This method permits to calculate the forces of attraction of a positron (or of positronium) to neutral atoms. The author expresses his gratitude to Professor A. A. Sokolov for supervising this work. There are 1 figure and 15 references, 2 of which are

Soviet.

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An Application of the Variational Method to the SOV/56-37-2-19/56  
Determination of the Binding Energy of a Proton-Electron-Positron System

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: February 13, 1959

Card 4/4

83591

S/056/60/038/005/024/050  
B006/B070

29.6.520

AUTHOR:

Shmelev, V. P.

TITLE:

Polarization of the Hydrogen Atom in the Ground State by  
the Field of a Point ChargePERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 38, No. 5, pp. 1528 - 1533

TEXT: The author wanted to derive an expression for the dipole moment  $p$  of a hydrogen atom, appearing due to a positive point charge, in terms of the distance  $R$  between the charge and the nucleus. The origin of the coordinate system is taken to be at the nucleus, and the positive point charge  $e$  is assumed to be situated on the z-axis at a distance  $R$  from the nucleus. The usual method for the two-center problem (hydrogen molecule) is used, the only change being made in the boundary condition for  $R \rightarrow \infty$ . Elliptic coordinates are introduced and the boundary conditions are established after separating the variables. While in the problem of the hydrogen molecule either symmetric or antisymmetric solutions are possible, no such symmetry occurs in the present problem. The problem

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~~state. The author~~  
~~Professor A. A. Sokolov for his~~

Polarization of the Hydrogen Atom in the  
Ground State by the Field of a Point Charge

83591  
S/056/60/038/005/024/050  
B006/B070

guidance. There are 3 figures and 7 references: 1 Soviet, 3 German,  
1 US, and 2 British.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State  
University)

SUBMITTED: November 27, 1959

Card 3/3

SHMELEV, V.P.; SHKARLET, Yu.M.

Electromagnetic field of an a.c. carrying turn over a conducting layer. Zhur. tekhn. fiz. 39 no.1:131-141 Ja '64. (MIRA 17:1)

1. Moskovskiy ordena Lenina energeticheskiy institut.

SHMELEV, V. F.

"Effect of Bromine-82 Radiation under rarefied atmospheric conditions on spinal reflex chronaxy."

A single lowering of barometric pressure within the same day that radioactive bromine is administered weakens ~~xxxxxx~~ the action of ionizing radiation on spinal reflex chronaxy.

candidate dissertation listed in Meditinskaya radiologiya, no. 7, 1964. The article did not state specifically what degree was awarded. The annotated titles deal with studies on radiation physiology, radiation biochemistry, combined trauma and the influence of radiation on regenerative processes, radiation microbiology and immunology, and radiation pharmacology.

TKACHENKO, R.F., master po remontu PMS-36 (stantsiya Bredy, Yuzhno-Ural'skoy dorogi).; KHOROSHEV, V.A., starshiy mekhanik puteukladchika PMS-26 (stantsiya Tuapse, Severo-Kavkazskoy dorogi).; VISICH, A.D., master po ekspluatatsii mashin (raz"yezd Kutan, Severo-Kavkazskoy dorogi).; NECHAYEV, B.N., master po ekspluatatsii mashin (stantsiya Karaul-Kuyu, Ashkhabadskoy dorogi).; SYCHEV, A.P., mekhanik puteukladochnogo krana (stantsiya Dzegam, Azerbaydzhanskoy dorogi).; SEREBROV, Yu.T., mekhanik puteukladochnogo krana (stantsiya Dzegam, Azerbaydzhanskoy dorogi).; SHMELEV, V.V.; master po remontu (stantsiya Girey, Severo-Kavkazskoy dorogi).; MIROHENKO, V.I., mekhanik-puteukladchik (stantsiya Girey, Severo-Kavkazskoy dorogi).

According to the operators of railroad machinery, the equipment could be utilized in a better way. Put' i put.khoz.5 m.2:30-33 F '61.  
(MIRA 14:3)

(Railroads--Equipment and supplies)

POLYANIN, D.V.; ZOTOV, G.M.; GRYAZNOV, E.A.; MENZHINSKIY, Ye.A.; RUBININ,  
A.Ye.; CHEBOTAREVA, Ya.D.; ZAKHMATOV, M.I.; OKUNEVA, L.P.;  
SIMELEV, V.V.; STULOV, A.A.; POKROVSKIY, A.N.; SHIL'DIKROT, V.A.;  
IVANOV, A.S.; NABOROV, V.B.; FINOGENOV, V.P.; KUR'YEROV, V.G.;  
KRAMTSOV, B.A.; BATYGIN, K.S.; BOGDANOV, O.S.; KROTOV, O.K.;  
GONCHAROV, A.N.; KRESTOV, B.D.; LYUBSKIY, M.S.; SOKOL'NIKOV,  
G.O.; KAMENSKIY, N.N.; YASHCHENKO, G.I.; SABEL'NIKOV, L.V.;  
GERCHIKOVA, I.N.; FEDOROV, B.A.; STEPANOV, G.P.; BORODAYEVSKIY,  
A.D.; INGATUSHCHENKO, S.K.; VARTUMYAN, E.L.; KAPELINSKIY, Yu.N..  
red.; MAYOROV, B.V., red.; NABOROV, V.B., red.; SOLODKIN, R.G.,  
red.; DROZDOV, A.G., red.; ROSHCHINA, L., red.; SOLOV'YEVA, G..  
mladshiy red.; CHEPELEVA, O., tekhn. red.

[The economy of capitalist countries in 1961; economically de-  
veloped countries]Ekonomika kapitalisticheskikh stran v 1961  
godu; ekonomicheski razvitye strany. Pod red. IU.N.Kapelinskogo.  
(MIRA 16:2)  
Moskva, Sotsekgiz, 1962. 447 p.  
(Economic history)

ACC NR: AP6034907

SOURCE CODE: UR/0382/66/000/002/0061/0072

AUTHOR: Vulis, L. A.; Gusika, P. L.; Kusainov, M. K.; Shmelev, Yu. K.;  
Yaglenko, V. T.

ORG: none

TITLE: Mercury flow in a trough in a transverse magnetic field

SOURCE: Magnitnaya gidrodinamika, no. 2, 1966, 61-72

TOPIC TAGS: transverse magnetic field, mercury, magnetogasdynamics,  
magnetohydrodynamics, mercury flow, free surface flow

ABSTRACT: The article presents some results of systematic observations of a stationary flow of mercury in a horizontal trough, with insulated walls and electrodes in the presence of a transverse magnetic field. This method was found to be valuable in the study of magnetohydrodynamics and magnetogasdynamics phenomena. Qualitative characteristics were obtained on the structure of the hydraulic jump in the magnetic field and the influence of the latter on the intensity and location of the hydraulic jump in the range of values studied for the determin-

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UDC: 538.4

ACC NR: AP6034907

ing parameters. Experimental data for continuous subcritical and theoretical flows obtained in a one-dimensional approximation were compared, and qualitative characteristics obtained. Results of tests confirmed the qualitative deductions from the analysis of equations of reversal effects and the possibility of using an approximate computation based on a one-dimensional diagram. With a certain correlation of parameters, a practically smooth virtually jumpless transition from the supercritical to the subcritical flow was observed. Orig. art. has:

13 figures, 13 formulas. [GC]

SUB CODE: 11, 20, 09 / SUBM DATE: 31Jan66 / ORIG REF: 006 / OTH REF: 003 /

Card 2/2

ACC NR: AP7007075

least permeable zone of suspended material was apparently located. The experimental set-up was equipped with electromagnets that were used to study the effects of a magnetic field on the structure of the fluidized bed. Orig. art. has: 4 figures. [JPRS: 39,658]

Card 2/2

SHMELEVA, A., brakovshchik

Let's put an end to faulty production. Pron.koop. 14 no.2:15  
(MIRA 13:5)  
F '60.

1. Artel "Krasnyy trikotazhnik," g.Luga, Leningradskoy oblasti.  
(Color in the textile industries)

July 1967.

Food supply of fishes feeding on plankton in the sea of Azov, part of the Black Sea in 1963. Trudy Fergal. (MIRAN 1967)

Some characteristics of the main forms of zooplankton in the Black Sea. Icid. 150-158 (MIRAN 1967)

SHNELEVA, A.A.

New species of Copepoda in the Adriatic Sea and information on  
of their distribution. Okeanologiya 4 no.6:1966-1972 162.  
(MIRA 18:2)

1. Institut biologii yuzhnykh morey AN UkrSSR.

SHMELEVA, A.A., DSIAVO, Ye.I.

A new species of the genus *Danies* (Copepoda, Cyclopoida) from  
the Mediterranean Sea. Zool zhurn, 44 no.10.1562-1563 '65.  
(MIRA 18:11)  
I. Institut biologii Yuzhnykh morey AN UkrSSR, Sevastopol'.

SHMELEVA, A.A.

A new species of Copepoda (Calanoida) from the Adriatic Sea.  
Zool. zhur. 44 no.5:768-770 '65. (MIRA 18:6)

1. Institut biologii yuzhnykh morey AN UkrSSR, Sevastopol'.

BRESLAV, I.S.; ZHIRONKIN, A.G.; IL'NITSKIY, A.M.; KONZA, E.A.;  
MITYUSHOV, M.I.; NOZDRACHEV, A.D.; SALATSINSKAYA, Ye.N.;  
TROSHIKHIN, G.V.; SHMELEVA, A.M.

Some data on the effect of a closed space on the physiological  
functions in animals. Probl.kosm.biol. 2:291-302 '62.  
(MIRA 16:4)  
(SPACE MEDICINE)

S/020/63/149/001/023/023  
B144/B186

AUTHORS: Breslav, I. S., Zhironkin, A. G., Shmeleva, A. M.

TITLE: Effect of elevated partial oxygen pressure on the morphological composition of the white blood in mice

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 1, 1963, 207-209

TEXT: Morphological changes of leucocytes were observed in the peripheral blood of mice under the following conditions of hyperoxia: 1) 60 % O<sub>2</sub> for 36 hrs in a closed ventilated system with absorption of CO<sub>2</sub> and moisture and admission of O<sub>2</sub>; 2) 90 % O<sub>2</sub> for 36 hrs in the same system; 3) high-pressure O<sub>2</sub> (2.5 atm) for 90 min; 4) 90 % O<sub>2</sub> for 36 hrs followed by hypoxia (9 % O<sub>2</sub> for 3 hrs); 5) high-pressure O<sub>2</sub> for 90 min with subsequent loss of  $\approx$ 10 % of the total blood. Blood samples were taken before the test and 5 - 6 hrs, 3 and 7 days after termination of hyperoxia conditions. Common to all tests was a significant initial leucopenia,  
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Effect of elevated partial oxygen pressure... S/020/63/149/001/023/023  
B144/B186

mainly due to reduction in lymphocytes. With the exception of test 1, regeneration set in after 2 - 3 days. In tests 4 and 5, a strong leucopenia was coupled with retarded regeneration. The analogy with radiation-induced alterations is obvious. The hypotheses hitherto made to explain these phenomena are summarized, but further studies will be required to decide whether the peroxide, the hypoxic, or the regulatory mechanism is decisive. There are 1 figure and 1 table.

ASSOCIATION: Institut fiziologii im. I. P. Pavlova Akademii nauk SSSR  
(Institute of Physics imeni I. P. Pavlov of the Academy of Sciences USSR)

PRESENTED: July 30, 1962, by V. N. Chernigovskiy, Academician

SUBMITTED: July 28, 1962

Card 2/2

L 14298-66 EWT(1)/FS(v)-3 SCTB DD/RD

ACC NR: AT6003884

SOURCE CODE: UR/2865/65/004/000/0492/0501

AUTHOR: Breslav, I. S.; Shmeleva, A. M.

ORG: none

2,44

32  
B+1

TITLE: Effect of increased partial oxygen pressure on the morphological composition of the peripheral blood of animals

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 492-501

TOPIC TAGS: hyperoxia, mouse, respiration, hematology, test chamber

ABSTRACT: Experiments were performed in order to determine the effect of high partial pressures of oxygen on the morphological composition of peripheral blood of animals. Two series of experiments were performed on white laboratory mice aged two to three months. In the first series of experiments the effect of a 60% oxygen atmosphere for 36 hours, of a 90% oxygen atmosphere also for 36 hours, and 100% oxygen at a pressure of 2.5 atm for 1 1/2 hours were tested. In the second series of experiments, the effects of relatively prolonged (up to 10 days) exposure of animals to a gas mixture composed of 60% oxygen and 40% nitrogen were tested.

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ACC NR: AT6003884

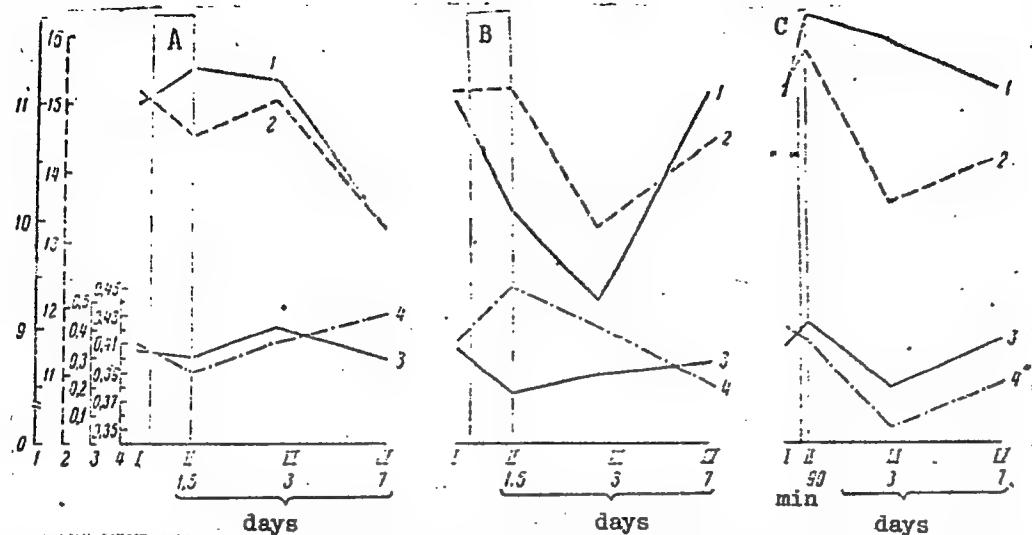


Fig. 1. Changes in the morphological composition of red blood corpuscles of mice after their exposure to gas media with an elevated partial pressure of oxygen

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ACC NR: AT6003884

(Continuation of Figure 1)

A - 60% O<sub>2</sub> (36 hours); B - 90% O<sub>2</sub> (36 hours); C - O<sub>2</sub> at 2.5 atm (1.5 hours); I - before the experiment; II - immediately after conclusion of the experiment; III - three days later; IV - seven days later; 1 - erythrocyte content (in millions per 1 cc of blood); 2 - amount of hemoglobin (in g%); 3 - reticulocyte content (in thousands per cc of blood); 4 - color index.

The results of the two series on red blood corpuscles are presented in Figures 1 and 2. The results of the two series of experiments on white blood corpuscles are presented in Figures 3 and 4. These results make it possible to regard the morphological composition of the blood as a sensitive index which can be used for evaluation of the physiological effect of increased partial pressure of oxygen on the organism. Orig. art. has: 4 figures. [ATD PRESS: 4091-F]

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ACC NR: AT6003884

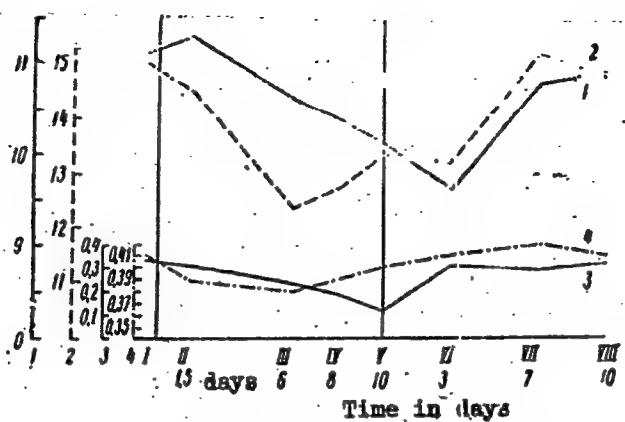


Fig. 2. Changes in the morphological composition of red blood corpuscles of mice during and after exposure to a 60% oxygen atmosphere

I - Before the experiment; II - 1.5 days after beginning the experiment;  
III - on the sixth day; IV - on the eighth day; V - on the tenth day;  
VI - 3 days after conclusion of the experiment; VII - 7 days after;  
VIII - 10 days after. (Arabic numerals have same designation as in Fig. 1)

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L 14298-66

ACC NR: AT6003884

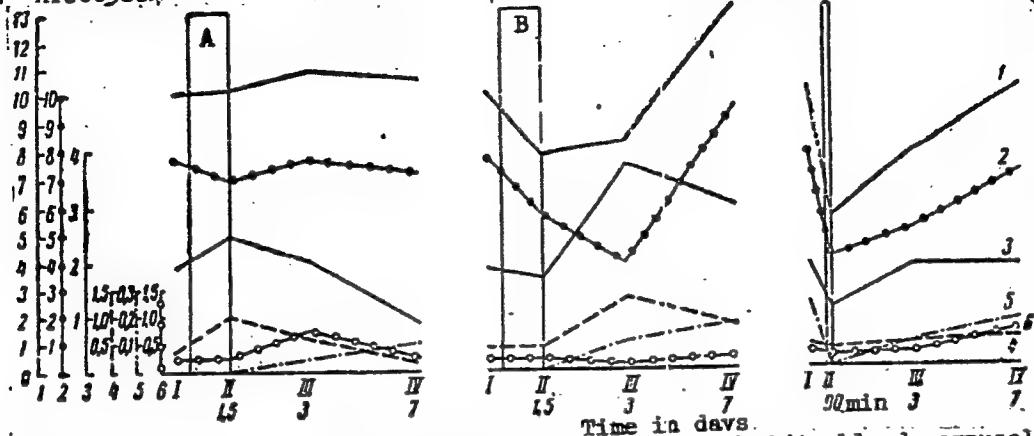


Fig. 3. Changes in the morphological composition of white blood corpuscles of mice after exposure to various oxygen media. A - 60% O<sub>2</sub> (36 hours); B - 90% O<sub>2</sub> (36 hours); C - O<sub>2</sub> at 2.5 atm pressure (1.5 hours); I - before the experiment; II - immediately after the experiment; III - 3 days after; IV - 7 days after; 1 - total number of leukocytes; 2 - of lymphocytes; 3 - of neutrophiles (total); 4 - young forms of neutrophiles (with rod-shaped nuclei); 5 - eosinophiles; 6 - monocytes. (All types given in thousands per cc of blood)

Card 5/7

L 14298-66

ACC NR: AT6003884

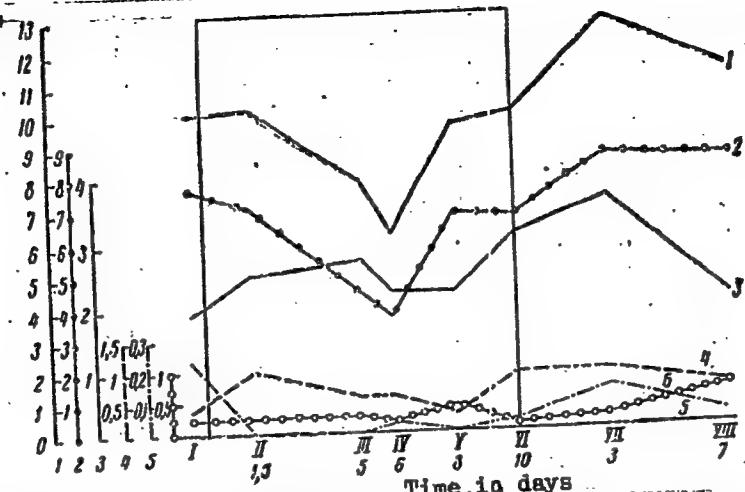


Fig. 4. Changes in the morphological composition of white blood corpuscles of mice during and after their exposure to a gas medium of 60% oxygen.  
 I - Before the experiment; II - 1.5 days after beginning the experiment;  
 III - on the fourth day; IV - on the sixth day; V - on the eighth day;  
 VI - on the tenth day; VII - three days after conclusion of the experiment;  
 VIII - seven days after. (Arabic numerals have the same designations  
 as in Fig. 3.)

Card 6/7

L 14298-66

ACC NR: AT6003884

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 015 / OTH REF: 011

OC  
Card 7/7

ZHIROKIN, A.G.; BRESLAV, I.S.; KONZA, E.A.; NOZDRACHEV, A.D.; SALATSINSKAYA,  
Ye.N.; TROSHIKHIN, G.V.; FEDOROVA, L.D.; SHMELEVA, A.M.

Effect of prolonged sojourn of animals in oxygen-enriched air  
on some physiological functions. Probl. kosm. biol. 4:518.  
530 '65. (MIRA 18:9)

L 22778-66 EWT(1) SCTB DD/JXT(RML)

ACC NR: AP6009722

SOURCE CODE: UR/0219/66/061/002/0025/0028

AUTHOR: Zhironkin, A. G.; Breslav, I. S.; Rogovenko, Ye. S.; Shmeleva, A. M.

33

B

ORG: Physiology Institute im. I. P. Pavlov, AN SSSR (Institut fiziologii AN SSSR)

TITLE: Effect of prolonged presence in a hyperoxic medium on the monkey body

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 61, no. 2, 1966, 25-28

TOPIC TAGS: experiment animal, hyperoxia, environment test chamber, conditioned reflex

ABSTRACT: One young adult rhesus monkey weighing 3.6 kg and one young adult capuchin monkey weighing 1.9 kg were investigated to determine the effects of prolonged hyperoxia on physiological indices and higher central nervous activity. Prior to experimentation the animals were conditioned to the barometric chamber for 3 mos under normal atmospheric conditions (0.2 to 0.4% carbon dioxide, 70 to 80% relative humidity, and a 25 to 26° temperature). Following this period, the animals were observed for 10 days under normal atmospheric conditions, then for 10

Card 1/2

UDC: 612.273.1-019:599.82

L 22778-66

ACC NR: AP6009722

O

days under hyperoxic conditions (60% oxygen and 40% nitrogen), and again for 10 days under normal conditions. Number of hours of sleep and general condition were recorded daily, rectal temperature and blood analysis results were recorded every 5th day, and oxygen consumption and respiratory movement frequency were recorded hourly. Higher central nervous activity changes were determined by conditioned reflexes. During the first few days under hyperoxic conditions, the physiological indices and conditioned reflex activity of the two animals dropped slightly. However, at the end of the 10 day period, no pathological changes or adverse effects on higher central nervous activity were found. These data concur with literature data and demonstrate again the ability of monkeys to adapt successfully to a moderately hyperoxic medium. Orig. art. has: 3 figures and 1 table.

[06]

SUB CODE: 06/ SUBM DATE: 30Jun64/ ORIG REF: 012/ OTH REF: 012  
ATD PRESS: 4229

Card 2/2 BK

L 16812-66 EWT(1) SCTB DD  
ACC NR: AT6003887

SOURCE CODE: UR/2865/65/004/000/0518/0530

AUTHOR: Zhironkin, A. G.; Breslav, I. S.; Konza, E. A.; Nozdrachev, A. D.;  
Salatsinskaya, Ye. N.; Troshikhin, G. V.; Fedorova, L. D.; Shmeleva, A. M.

45

B+1

ORG: none

TITLE: Effects of prolonged exposure to oxygen-enriched air on some physiological functions in animals

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii,  
v. 4, 1965, 518-530

TOPIC TAGS: oxygen, hyperoxia, physiology, space medicine, closed ecology system

ABSTRACT: Experiments were performed on white mice kept 10 days in a closed system filled with air or a gaseous mixture containing 63% oxygen to determine the effects on some basic functions in relation to the length of exposure. The respiratory rate of the "oxygen" mice was noticeably slower than that of the control mice and their oxygen consumption was somewhat higher. Hyperoxia lowered thyroid function, changed hematological indices (decrease in hemoglobin concentration, number

Card 1/2

REF ID: A1131  
S.D.: DD/CB  
ACC #: 47535, 636

SOURCE CODE: UR/0000/00/000/000/0388/0389

ACTION: Smoleva, A. M.

CCD: none

ARTICLE: Erythropoietic reactions in animals to increased ambient partial oxygen pressure [paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 388-389

TOPIC TAGS: hyperoxia, erythropoiesis, hematology

ABSTRACT:

An analysis was made of the dynamics of the effect of oxygen on erythropoiesis in rats and mice. For this purpose, erythrocyte acid-resistance, which reflects the age composition of arterial blood, and thus the process of blood regeneration, was studied in addition to the standard hematological indices.

During 15 days in an atmosphere with 60% oxygen and 40% nitrogen, the peripheral blood of mice showed decreased hemoglobin and erythrocyte counts

Card 1/3

L 08681-67

- ACC NR: AT6036686

accompanied by reticulocytosis.

A 90-min exposure to oxygen under a pressure of 2.5 had little effect on the summary indices of the arterial blood in mice, but did produce considerable fluctuations, tending mainly toward increase.. in the reticulocyte count and erythrocyte acid resistance.

A 40-hr exposure to pure oxygen at normal pressure caused the erythrocyte count to increase, but it afterwards decreased. The reticulocyte count and erythrocyte acid-resistance decreased initially, but afterwards increased.

Similar arterial blood change dynamics occurred in rats after a 72-hr exposure, sufficient to cause lung damage. In the latter case, these shifts were more sharply pronounced.

Exposure to a medium with increased pO<sub>2</sub> thus causes noticeable stimulation of erythropoiesis. sometimes followed by a short period of erythropoiesis suppression.

Cont. 2/3

1-17  
ACC 12. *Kleffman*

Comparison with the dynamics of arterial blood indices during exposure to a hyperoxic atmosphere suggests the following mechanism of action of oxygen on arterial blood. Alone, excess oxygen content in the blood depresses erythropoiesis, but under certain conditions hyperoxia may cause tissue hypoxia, which may become especially severe when the organism is switched to an atmosphere with a normal oxygen content. This aggravated tissue hypoxia may cause intensified erythropoiesis.

Atmospheres with elevated pO<sub>2</sub> have ambiguous effects: depending on the intensity and duration of exposure to hyperoxia, erythropoiesis may be either suppressed or stimulated in the end. J.A. No. 22; ATD Report 66-116

SUB CODE: 06 / SUEM DATE: 03May66

Card 3/3 *esk*

SHMELEVA, A.N.

Shmeleva

Shmeleva, A.N. [Affiliation not given]

"Differential action of dithiazine and of methylene blue  
on the catalase activity of living roundworms and their  
isolated tissues."

Zoologicheskaya Akademiya Nauk Veterinarii Akademii Nauk SSSR, 1962,  
pp. 265-266.

Abstract (Russian article; authors' German summary ab-  
stract) The aerobic nature of roundworms is controversial.  
Catalase activity may be used as an indirect index of  
respiration. Catalase activity of living roundworms is ac-  
tivated by dithiazine and is inhibited by methylene blue.  
In hemolymph, homogenate or muscle, methylene blue has no  
effect and dithiazine inhibits. Since catalase activity  
varies in inverse proportion with respiration, it is es-  
timated that methylene blue stimulates and dithiazine inhi-  
bits respiration. Results with tissue experiments may not  
be a proper index of processes in the living organism. About  
half of dozen references are Russian, the rest western.  
1/4

SHMELEVA, A.N.

Methods of studying the origin of natural residual magnetization of sedimentary rocks. Trudy VNIGRI no.204:30-37 '63.  
(MIRA 16:6)

(Rocks, Sedimentary—Magnetic properties)

SHMELEVA, A.N.

Paleomagnetic studies of some sections of Upper Cretaceous  
sediments in the western foothills of the Fergana Range.  
Trudy VNIGRI no. 204:212-219 '63. (MIRA 16:6)

(Fergana—Geology, Stratigraphic)  
(Fergana—Rocks, Sedimentary—Magnetic properties)

KHRAMOV, A.N.; SHMELEVA, A.N.

Data on the geological history of the earth's magnetic field.  
(MIRA 16:6)  
Trudy VNIGRI no.204:264-301 '63.

(Geology, Stratigraphic)  
(Rocks, Sedimentary—Magnetic properties)

21.6000

37792

S/120/62/000/002/016/047  
E140/E163AUTHORS: Bolotov, V.N., Devishev, M.I., Filatov, V.V., and  
Shmeleva, A.P.TITLE: Multichannel pulse amplitude analyser for  
ionisation calorimeter

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 66-70

TEXT: The ionisation calorimeter is the basic instrument  
for determining energy of hyper-rapid particles ( $E \geq 10^{11}$  eV)  
present in cosmic rays. The authors' calorimeter consists of  
130 ionisation chambers with capacitive memories and output by  
means of a mechanical commutator. An electromagnetic  
oscillograph is used for registering the results on a  
photographic strip 120 mm in width. The dynamic range required  
for the record for a given chamber is of the order of 200:1,  
with a precision of 15% near the lower limit (20 relativistic  
particles). The amplifier (vacuum tube) and control circuits  
of the instrument are described in some detail. Two traces  
are photographed, apparently in the ratio of 11:1

Card 1/2

Multichannel pulse amplitude ...

S/120/62/000/002/016/047  
E140/E163

(voltage divider 450 k - 43 k for the attenuated signal).  
It is considered that the error due to system instabilities  
will be less than 10% with calibration once a day.  
There are 6 figures.

ASSOCIATION: Fizicheskiy institut AN SSSR  
(Physics Institute, AS USSR)

SUBMITTED: July 11, 1961

Card 2/2

, A. N.; BAYCH, M. I.; DEVISHEV, M. I.; DOLOGOSHEYN, B.A.; KLIMANOVA, L.  
B. I.; SHMELEVA, A. P.

New Discharge Track-Detector Chamber Investigation of Characteristics of some  
Spark Chambers.

Report submitted for the Intl. Conf. on Cosmic Rays (IUPAP), Jaipur India,  
11-14 Dec 1963.

ACCESSION NR: AP4033107

S/0120/64/000/002/0057/0061

AUTHOR: Bolotov, V. N.; Dayon, M. I.; Devishev, M. I.; Khimanova, L. F.;  
Luchkov, B. I.; Shmeleva, A. P.

TITLE: Accuracy of tracing the particle trajectory by a spark in a spark  
chamber

SOURCE: Pribory\* i tekhnika eksperimenta, no. 2, 1964, 57-61

TOPIC TAGS: spark chamber, large gap spark chamber, cosmic ray study,  
particle trajectory

ABSTRACT: A qualitative investigation of the shift (translation) and angle  
between the spark and particle paths in a 20-cm gap spark chamber is reported.  
Two Ne-filled at 650 torr test chambers had a common electrode with a  
50-micron-thick aluminum foil in the center. Min del. was 0.3 microsec.  
Tracks of mu-mesons of cosmic rays were photographed. Measurements were

12

ACCESSION NR: AP4033107

performed with a parallel (130 kv) and series (65 kv) connection of the chamber with the supply surge generator. The spark thickness was 1-2 mm. It was proved that high-energy (500-600 Gev/s) particles can be measured by the "spark chamber, magnetic field" method at existing cosmic-ray stations. "The authors consider it their duty to express their gratitud: to B. A. Dolgoshein for his useful comments, to P. N. Komolov, L. L. Saburova, and E. Chaykovskaya for their help in computer data processing, to V. A. Nikolayev, I. N. Solntsev, and V. Lukin for their help in aligning and operating the spark chambers, and to N. V. Fedulova for her help in processing the results." Orig. art. has: 5 figures and 9 formulas.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Institute of Physics, AN SSSR)

SUBMITT: 13 DATE ACC: May 64 ENCL: 00  
...SMT CO NO RULF S: 104 OTHER: 004

L 4489-66 EWT(m)/FCC/T IJP(c)

ACC NR: AP5024660

SOURCE CODE: UR/0048/65/029/009/1777/1780

AUTHOR: Bolotov, V.N.; Devishev, M.I.; Klimanova, L.F.; Luchkov, B.I.; Shmeleva, A.P.

ORG: none

TITLE: Some characteristics of wide gap spark chambers and applications of such chambers in cosmic ray physics /Report, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 9, 1965, 1777-1780

TOPIC TAGS: spark chamber, particle detector, particle track, cosmic ray particle

ABSTRACT: Recent literature on the characteristics of wide gap spark chambers is briefly reviewed from the point of view of the applicability of such chambers to problems of cosmic ray physics. The "streamer chamber" of B.A.Dolgoshein, B.I.Luchkov, and B.U.Rodionov (Zh. eksperim. i teor. fiz., 46, 1953 (1954); Doklad na konferentsii po fizike vysokikh energiy, Dubna, 1964) is also discussed briefly. The root-mean-square angle between the two tracks of the same particle successively traversing two chambers with 20 cm gaps in a direction making an angle of less than 80° with the electric field was found to be  $5 \times 10^{-4}$  radian. With this small angular dispersion it would be possible to measure momenta up to 550 BeV/c with the aid of a 150 cm long 10 kOe magnetic field. This angular dispersion can be decreased by improving the uniformity of the electric field and the purity of the gas, and by reducing the delay be-

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L 4489-66

ACC NR: AP5024660

8

tween passage of the particle and application of the field. The direction of the spark agrees with that of the track within  $1^\circ$  even when the angle between the track and the electric field is as large as  $40-50^\circ$ . The shower efficiency of a spark chamber with a 10 cm gap has been found to be 100 % for showers of up to 200 particle tracks making angles less than  $20^\circ$  with the electric field, and under certain conditions it is possible to distinguish tracks of heavily ionizing particles against a background of minimum ionizing particle tracks. It is possible to increase the delay between particle passage and field application up to 20 microsec without reducing the recording efficiency for single particles below 100 %, but the quality of the track deteriorates when the delay exceeds 2 microsec. In the streamer chamber the duration of the high voltage pulse is nicely controlled so that streamer development begins but the spark discharge stage is not reached. It is thus possible to record narrow tracks for particles moving in an arbitrary direction with respect to the electric field. The streamer chamber appears to be the best of all track chambers for accurate determinations of track directions and curvatures. Orig. art. has: 5 figures.

SUB CODE: NP/ SUBM DATE: 00/

ORIG REF: 008/ OTH REF: 007

PC

Card 2/2

L 6948-66 EWT(1)/FCC/EWA(h) GW  
ACC NR: AP 5026237

SOURCE CODE: UFR/0048/65/029/010/1953/1955

AUTHOR: Akopyan, G.S.; Shmeleva, A.P.

23  
B

ORG: none

TITLE: On the ionizing particles accompanying approximately 170 BeV nucleons at 2 km altitude /Report, All-Union Conference on Cosmic Ray Physics held at Apatity, 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.29, no. 10, 1965, 1953-1955

TOPIC TAGS: Primary cosmic ray, secondary cosmic ray, spark chamber, nucleon, muon, ionization chamber

ABSTRACT: The authors have investigated the ionizing particles accompanying high energy cosmic ray nucleons at 2 km altitude in order to obtain data to aid in the interpretation of cosmic ray investigations of high energy nucleon interactions. The particles were recorded with a telescope of three  $1300 \text{ cm}^2$  spark chambers in the  $30 \times 60 \times 140 \text{ cm}^3$  gap of an electromagnet which provided a 10 kOe field. Below the telescope was a 10 tray ionization calorimeter containing  $800 \text{ g/cm}^2$  of iron for measuring the energy of the high energy primary. Primaries with energies from 100 to 300 BeV were observed. The exponent in the energy spectrum of these particles was  $1.8 \pm 0.8$ . The momenta of the accompanying ionizing particles were measured with the magnetic field and the spark chambers. Particles with momenta less than 1 BeV/c

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L 6948-66

ACC NR: AP 5026237

were deflected out of the telescope and so could not be measured, and the curvatures of the tracks of particles with momenta greater than 30 BeV/c were too small to measure. The exponent in the energy spectrum of the accompanying particles was  $1.2 \pm 0.5$ . The density of accompanying particles within 30 cm of the primary was  $0.0023 \text{ cm}^{-2}$  and the density within 70 cm of the primary was nearly the same. Sixty percent of the accompanying particles were negatively charged. The accompanying particles were not stopped by 6 cm of lead; it is concluded that they are muons.

Orig. art. has: 3 figures.

SUB CODE: AA

SUBM DATE: 00/-/Oct65

ORIG. REF: 004 OTH REF: 000

*[Signature]*  
Card 2/2

DZAGUROV, S.G.; SAFONOV, G.A.; IVANOVA, G.A.; SHMELEVA, G.A.

Use of Russian agar for the preparation of poliomyelitis virus  
plagues (colonies). Vop.virus. 6 no.5:632-634 S-0 '60.

(MIRA 14:7)

1. Institut po izucheniyu poliomyelita AMN SSSR, Moskva.  
(POLIOMYELITIS) (AGAR)

DZAGUROV, S.G.; SHMELEVA, G.A.; VIL'NER, L.M.

Comparative study of the dynamics of the inactivation of a virus  
in dialyzed and nondialyzed specimens of vaccine against poliomyelitis  
detoxified with formaldehyde. Vop. virus. 6 no.5:616-617 S-O '61.

(MIRA 15:1)

1. Institut poliomiyelita i virusnykh entsefalitov AMN SSSR, Moskva.  
(POLIOMYELITIS)

41466

S/153/62/005/004/003/006  
E021/E435

1170

AUTHORS: Filippova, L.I., Shmeleva, G.A.

TITLE: Galvanic deposition of lead from chloride baths.

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, v.5, no.4, 1962, 624-628

TEXT: The possibility of obtaining a lead coating from chloride baths, the influence of the nature and concentration of additions and the conditions of electrolysis on the external appearance, structure, hardness, porosity and corrosion resistance of the lead coatings were studied. Electrolytic deposition was carried out in a 100 ml bath using lead anodes and copper and iron cathodes. The electrolyte was prepared by dissolving lead chloride in a saturated solution of sodium chloride at room temperature or the temperature of electrolysis. The lead concentration was 10 to 20 g/litre and the sodium chloride concentration 300 to 316 g/litre. The deposit was examined visually and under the microscope at a magnification of 510. Microhardness measurements were carried out. The porosity was estimated by an anodic treatment and the corrosion resistance in the usual chamber. The influence of the following

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Galvanic deposition of lead ...

S/153/52/005/004/003/006  
E021/E435

additions was investigated:  $\beta$ -naphthol, resorcinol, phenol, diphenylamine, glue, gelatine, in concentrations of 0.1 to 3 g/litre. The current density varied from 0.2 to 2 A/dm<sup>2</sup> and the temperature from 25 to 60°C. The thickness of the coating in the majority of cases was 10  $\mu$ . In the presence of additions of  $\beta$ -naphthol and glue or gelatine, a good deposit could be obtained. A fine-grained, dense, non-porous, bright deposit of 10 to 30  $\mu$  thickness can be obtained from an electrolyte of the composition (in g/litre): Pb 10 to 20, NaCl 300 to 316,  $\beta$ -naphthol 0.1, glue 1.5 or  $\beta$ -naphthol 1.0, gelatine 1.0. The temperature was 40 to 60°C and the current density 0.2 A/dm<sup>2</sup> without stirring or 1 A/dm<sup>2</sup> with mechanical mixing. There are 1 figure and 3 tables.

ASSOCIATION: Kafedra tekhnologii elektrokhimicheskikh proizvodstv  
Ivanovskiy khimiko-tehnologicheskiy institut,  
(Department of Electrochemical Production Technology  
Ivanovo Chemical Technological Institute)

SUBMITTED: March 9, 1961

Card 2/2

• *R. M. L. L. V. G. C.*

## USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19562

Author : G. G. Shmeleva, V. I. Petrashen'

Inst : -

Title : Colorimetric Determination of Thallium by Visual Method with Application of Methyl Violet

Orig Pub: Tr. Novocherkas. Politekhn. In-ta, 1956, 41(55),  
35 - 40.

Abstract: The determination of  $Tl^{(3+)}$  is based on the formation of little soluble compounds by galacid-complex anions of  $Tl^{(3+)}$  with methyl violet (I); these compounds are blue-violet colored and extracted by organic solvents.  $Tl^{(1+)}$  is oxidized first, and the excessive Cl is eliminated by boil-

Card 1/3

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APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001549730008-4

## USSR/Analysis of Inorganic Substances

G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19562

ing for a short time. 1 - 2 ml of the neutral solution of  $Tl^{(3+)}$ , 0.7 ml of 1 n. HCl and 1 ml of a 0.02% solution of I are put into a flat bottomed test tube, the volume of the liquid is increased to 5 ml with water, and it is extracted with 5 ml of toluene. The coloration intensity of the toluene layer is in proportion to  $Tl^{(3+)}$  content. It is not extracted by toluene. The quantity of  $Tl^{(3+)}$  is determined using a standard scale prepared in the same way. The standard scale is serviceable two weeks. 0.2 - 0.05% of  $Tl^{(3+)}$  in 1 ml are determined by the above method. The determination error does not exceed 10%.  $Na^+$ ,

Card 2/3

- 42 -

$K^+$ ,  $Mg^{2+}$ ,  $Ca^{2+}$ ,  $Al^{3+}$ ,  $Zn^{2+}$ ,  $Ni^{2+}$ ,  $Co^{2+}$ ,  $Mn^{2+}$ ,  
 $Cd^{2+}$ ,  $In^{3+}$ ,  $As^{5+}$  and  $SO_4^{2-}$  do not interfere with the  
determination.  $Cu^{2+}$  may interfere.

SHMELEVA, G. N.

"Micromorphology of the Receptive Innervation of the  
Female Internal Genitalia." Kazan' State Veterinary Inst imeni N. E.  
Bauman, Kazan', 1955. (Dissertation for the Degree of Candidate in  
Biological Sciences)

SO: M-955, 16 Feb 56

• Analysis of the political situation and changes of  
political attitude will be made in all areas and in ex-  
ceptional areas, including the present political situation in  
Russia. (See 18:9)

POLIKARPOVA, G.A. (Kazan, Universitetskaya ul. 34, kv.2); SHNELEVA, G.N.  
(Kazan, Boynichnaya, 19, kv.1)

Effect of carbocholine on the structure of myoneural synapses.  
Arkh. anat., gist. i embr. 47 no.12:44-49 D '64.

(MIRA 18:4)

1. Kafedra gistologii (zav. - prof. G.I.Zabusov) Kazanskogo  
meditsinskogo instituta.

SHMELEVА, L.A.

Struggle of Moscow workers against the Zubatov movement. Uch. zap.  
MGPI 110:31-70 '57. (MIRA 11:4)  
(Moscow—History) (Moscow—Labor and laboring classes)

KISLYUK, F.I.; SHMELEVA, I.A.; PETROV, G.N.

Effect of compounding on the characteristics of a synchronous generator in a movable electric station for resistance welding.  
Avtom. svar. 14 no.5:67-73 My '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po stroitel'stvu magistral'nykh truboprofodov.  
(Electric welding--Equipment and supplies)

S/032/60/026/011/019/035  
B015/B066

AUTHORS:

Kislyuk, F. I., Lifshits, V. S., and Shmeleva, I. A.

TITLE:

New Nondestructive Method of Determining the Quality of  
Butt Welds

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol. 26, No. 11:  
pp. 1262-1263

TEXT: The known nondestructive test methods cannot be applied in the case of butt welds, since the material defects in the surface are very thin and the weld seam shows a considerable thickening. In the present case a nondestructive patented (Ref. 1) test method is described. In principle, it is based on the fact that a flawless weld seam of this kind will show a higher tensile strength than the metal itself because of its thickness. In the thicker seam less tensile strains will occur in the range of elasticity with equal modulus of elasticity of weld seam and metal the relative deformation in the seam will be less if it is flawless. By measuring the deformation on three cross sections, i.e., in the seam and

Card 1/2

*Shark 11/VII 2*  
C.Z.E.C.H.

Physicomical properties of hairs during the dressing and dyeing of furs. V. A. Pchelin and I. S. Shmeleva (Sci. Research Inst. Fur Ind., Moscow). *Naučno-Issledovatel. Trudy, Sbornik 1, 3-25(1960); Českostol. kožářství 2, 167-70(1952).*—New app. and its use for the control of production are described. A micro-torsion-dynamometer measures the changes of resiliency of hair (modulus of elasticity) in "flexible liquids or gases." Another app. measures the permanent elongation of hair and another the resistance of hair to flexing. By means of these app. the authors measure the modulus of elasticity of hair and the influence of relative humidity (R.H.). Factor 1.0 at 0% R.H. decreases to 0.38 at 10% R.H. and after drying regains 0.98 at 0% R.H. The angle of torsion attains a max. of 25° and after drying regains to 0.3°. During the Al-Cr tannage the relative modulus, 1.0 on the raw skin, attains a min. after the pickle (0.71) and is 0.98 after the final Cr tannage. In the HCHO tannage the relative modulus of 1.0 attains a max. after the HCHO tannage (pH 9-10) of 1.22. After acidification by  $H_2SO_4$  it passes through a min. of 0.74, and after washing returns to 1.0. The authors follow the fixation

of wool of sheepskins by different means. Permanent straightening is attained by brushing of wool with a soln. of 28% HCHO and ironing at 195-210°; below 185° the straightening is not permanent; above 210° the wool is damaged. The same result can be attained by brushing with a 1:1 mixt. of 33% HCHO and EtOH and ironing twice at 165-80° and twice at 180-210°. The wool retains its original length. HCHO changes only the surface of wool. The changes of modulus of elasticity by the ironing of goat hair were studied. It is 0.75-0.85 after brushing with 1:2 AcOH:EtOH and ironing at 170-90°, and 0.85-0.95 after brushing with 1:1 HCHO:EtOH and ironing at 170-90°. If the temp. of the 2nd ironing is raised to 190-210°, the modulus becomes 2.8-3.0. The influence of HCHO at high temps. has been followed by x-ray spectra. Low-mol. polymers with cyclic structures are formed as well as high-mol. oxymethylene with the open structure. During the dyeing of hair by oxidation dyes with  $H_2O_2$ , the modulus attains its max. (1.1) after mordanting with  $K_2CrO_4$  and 1.08 after dyeing with Ursol. In dyeing without  $H_2O_2$ , the modulus is 2.19 after dyeing.

L. Misner

SHMELEVA, LA.

"Some Causes of Plating Defects in Chromium Plating." N. T. Kudryavtsev and L. A. Shmeleva (Zhur. Priklad. Khim., 1952, 25, (12), 1283-1292; Russ. translation: J. Appl. Chem. U.S.S.R., 1952, 25, (12), 1339-1342 (in English).—Experiments to investigate the cause of defects in Cr electrodeposits were made using laboratory and indust. (235-l.) baths: the electrolyte contained (g/l.)  $\text{CrO}_4$  240-280,  $\text{Cr}^{+3}$  6-8, and the anode-cathode distance was 25-30 mm. The anodes were of Pb (or in some cases of Pb-Sb alloy contg. 5-7% Sb), and  $\sim 150 \mu$  Cr was deposited either (i) at 60 amp./dm.<sup>2</sup> and 60° C., or (ii) at 38-40 amp./dm.<sup>2</sup> and 80° C. With  $\text{CrO}_4:\text{SO}_4^{2-}$  ratios of 80-135, no defects were observed, but at a ratio of 153, the deposit showed regular pitting. On removing almost all sulphate (concentration reduced to 0.05 g/l.) by addn. of  $\text{BaCrO}_4$ , dark-grey deposits were obtained, the current efficiency being very small. These grey deposits were also obtained from the bath after replenishing with  $\text{H}_2\text{SO}_4$  to give  $\text{CrO}_4:\text{SO}_4^{2-}$  ratios of 260 and 180. On further reducing the ratio to 150, the bath gave deposits marred by small

eruptions; if this bath was allowed to stand for 8 days and decanted, it then gave deposits which had only occasional defects (pits). Still further reduction of the ratio to 125 enabled trouble-free deposits to be obtained once more. Addn. of various impurities—fine Al powder, anode sludge (contg.  $\text{PbCrO}_4$ , Pb, Pb oxide, &c., with particle size 2.5-18  $\mu$ ), Fe and Fe chromate powder from Pb anodes, fine pigment, tracing paper, &c.—were made to a bath with a  $\text{CrO}_4:\text{SO}_4^{2-}$  ratio of 125 operated at 80° C. and 40 amp./dm.<sup>2</sup>; no defects were apparent on the deposits. Increasing the  $\text{Cr}^{+3}$  content to  $> 15$  g/l. at permissible  $\text{CrO}_4/\text{SO}_4^{2-}$  ratios was also not harmful. The prodn. of the defects is attributed to the formation of colloidal chromous hydroxide (or other compounds) at the cathode.—G. V. E. T.

SHMELEVA, L.A.

Causes of plating defects in chromium plating N. T.

Kudryavtsev and L. A. Shmelyova Appl. Chem. U.S.S.R. 25, 1332 (1952) [Part 1, issue 1].

Priklad. Khim. 25, 1283-8 (1952).—The formation was studied of sickle-like or deep circular holes and of cone-like outgrowths on the surface of electrolytic Cr plates. Cr plates were made from solns. contg. 240-60 g./l.  $\text{CrO}_4$  and 6-8 g./l.  $\text{Cr}^{2+}$ . The distance between anod. and cathode was 25-30 mm., and the anodes were of Pb contg. 5-7% Sb. The cathodic c.d.s. were 38-40 and 50 amp./sq. dm., resp., and the corresponding bath temps. 50 and 60°. Formation of holes and outgrowths could not be attributed to the direct action of mech. and chem. injuries in the bath. Neither addn. to the plating soln. of fine anode sludge, Fe, or Al powder or dry ground pigments, nor an accumulation of  $\text{Cr}^{2+}$  and Fe compds. in the soln. created Cr plates with irregularities. However, such irregularities could be observed when the ratio of  $\text{CrO}_4/\text{SO}_4$  was high. In this case basic chromic oxides may have accumulated on the solid-liquid interface on the cathode during discharge of sexivalent Cr. Low H-ion concn. on the cathode favored the formation of positively charged colloidal particles of chromous hydroxide which deposited on the surface of the cathode and which inhibited the growth of crystals of metallic Cr at these spots, resulting in pits and holes. Protrusions may have formed when the deposited particles of chromous hydroxide were reduced to metallic grains.

Appl. Chem.

Zhur.

Priklad. Khim.

25, 1283-8 (1952).

The formation was

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cles of chromous

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reduced to metallic

grains.

W. Beck

BARABANOV, L.G.; KONOPLEVA, A.I.; FODIMAN, L.V., kolorist; SHMELEVA, L.S.;  
CHEBIKINA, V.A., dessinator

Practices for improving the assortment and quality of production.  
Tekst. prom. 21 no. 4:55-67 Ap '61. (MIRA 14:7)

1. Direktor kombinata "Trekhgornaya Manufaktura" (for Barabanov).
2. Zaveduyushchaya otdelochnym proizvodstvom kombinata "Trekhgornaya Manufaktura" (for Konopleva). 3. Nachal'nik laboratorii kombinata "Trekhgornaya Manufaktura" (for Shmeleva).  
(Textile fabrics)

MOROZOVSKAYA, I.S.; SHMELEVA, L.S.

Determining the strength of textile fabrics by means of bands  
with reduced dimensions. Standartizatsiia 25 no.10:30-33 0  
'61. (MIRA 14:9)

(Textile fabrics--Testing)

ARKHIPOVA, T.N.; KOZLOVA, V.S.; KRYUKOVA, A.S.; SPMELEVA, L.S.

High-quality crease resistant finishing of cotton fabrics. Tekst.-  
prom. 21 no.5:67-68 My '61. (MIRA 15:1)  
(Cotton finishing) (Crease resistant fabrics)

AKHIEV, R. I.; DUBOVYI, V. S.; KARALYAN, V. V.; KERZHNIKOV, N. I.

Using gas chromatography, we have made quantitative analysis of the quantitative composition of hydrocarbons from a C-13.

Thus, it took 1.0 ml of the sample (1000-67) 3 hrs. to analyze.

2. Nauchno-issledovatel'skij institut neftegazodobychi preizvodstv.

SHMELEVA, M.I., kandidat meditsinskikh nauk (Moskva)

Nurse's work in sanatoriums for children afflicted with osteoarticular tuberculosis. Med. sestra no.7:16-19 Jl 154. (MLRA 7:7)

(TUBERCULOSIS, OSTEOARTICULAR, in infant and child

\*nurse's role in ther.)

(NURSING CARE

\*of children patients with osteoarticular tuberc.)

SHMELEVA,M.I. kandidat meditsinskikh nauk

Regenerative processes in osteoarticular tuberculosis; clinical  
morphological investigation. Probl.tub. no.5:29-36 S-O '55  
(MLBA 8:11)

1. Iz otdeleniya kostno-sustavnogo tuberkuleza imeni T.P.Krasno-  
bayeva (zav.--prof. Z. Yu. Rol'e) i patomorfologicheskogo otde-  
leniya (zav.prof. V.I.Puzik) Instituta Tuberkuleza AMN SSSR  
(dir. Z.A.Lebedeva)  
(TUBERCULOSIS, OSTEOARTICULAR, pathology,  
regen. clin. & autopsy findings)

SHMELEVA, M.I., kand.med.nauk

Result of use of medical physical culture in osteoarticular  
tuberculosis in children. Probl.tub. 36 no.6:42-50 '58  
(MIRA 11:10)

1. Iz otdeleniya kostno-sustavnogo tuberkuleza (zav. prof. Z.Yu.  
Rol'ye) Instituta tuberkuleza AMN SSSR (dir. Z.A. Lebedeva).  
(TUBERCULOSIS, OSTEOARTICULAR, in inf. & child.  
exercise ther. (Rus))  
(EXERCISE THERAPY, in various dis.  
osteoarticular tuberc. in child. (Rus))

SOKOLIN, M.L.; SOLOMONIK, S.S.; TARABRINA, V.M.; SHMELEVA, M.N.

Treatment of pyoderma patients with bicillin-3. Sov.med. 25 no.2:  
138 F '41. (MIRA 14:3)

1. Iz polikliniki Ramenskogo meditsinskogo ob'yedineniya, mediko-sanitarnoy chasti tekstil'nogo kombinata "Krasnoye znamya" i giprodskoy polikliniki g. Zhukovskogo.  
(PENICILLIN) (SKIN—DISEASES)

1. SHMELEVA, N.
2. USSR (600)
4. Collective Farms
7. Collective farm board effectively directs agricultural work. Kolkh. proizv. 12 no. 10, 1952
  
9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

SHMELEVA, N.

A day at the "Veterinary medicine and zoetchny" pavilion at the  
All-Union Agricultural Exhibition. Veterinaria 32 no.10:24-31 O  
'55. (MIRA 8:12)

(MOSCOW--VETERINARY MEDICINE EXHIBITIONS)

SHMELEV, N.

People with a glorious profession ("23 stories about builders."  
Reviewed by N.Shmelev.). Znan.sila 33 no.11:32 N '58.  
(MIRA 11:12)  
(Construction workers)

LEBEDEVA, Z.A., redaktor; SHMELEVA, N.A., redaktor; SAVON, A.A., redaktor;  
BOBROVA, Ye.N., tekhnicheskiy redaktor.

[Surgical methods of treating tuberculosis] Khirurgicheskie metody  
lecheniya pri tuberkuleze. Pod red. Z.A. Lebedevoi, N.A. Shmeleva,  
Moskva, Gos. izd-vo med. lit-ry, 1954. 134 p. (MIRA 8:2)

1. Akademiya meditsinskikh nauk, Moscow. Institut tuberkuleza.  
(Tuberculosis) (Chest-Surgery)

SHMEL'VA, N.A.

Alkaline aluminosilicate stones in high potash lead crystal glass. N. A. SHMEL'VA. *Doklady Akad. Nauk S.S.R.*, 88

[6] 885 (1953). Optical characteristics indicate that they pertain to leucite and carnegite. Small amounts of Na<sub>2</sub>O favor the crystallization of leucite and carnegite. With over 4% Na<sub>2</sub>O, the stones in the contact surface of the refractory disappear. The nature of destruction of the refractory, degree of wear of the pots and microscopic data do not indicate that stones are the result of low glass resistance of the refractory. The stones are not always stable; they can appear and disappear on the walls of the pot depending on the composition of the glass. Prolonged holding even at 1250°C. will cause the stones to dissolve partly in the glass. The solubility of the stones increases with increasing content of Na<sub>2</sub>O in the glass. In glasses containing 3% or less Na<sub>2</sub>O, the solution of the stones is practically unnoticed. Formation of stones is a complex process, but it can be controlled by varying the Na<sub>2</sub>O/K<sub>2</sub>O ratio. Another possible means of preventing the formation of stones is the development of cristobalite in the contact layer; the formation of stones ceased after the appearance of the cristobalite. The development of the contact layer, however, does not always lead to the formation of cristobalite. B.Z.K.

Shmeleva, N. A.  
Batch stones in lead crystal glass. N. A. Shmeleva.  
*Steklo i Keram.* 10, No. 6, 30-1(1953).—Stones of about 0.2 mm. in diam. were identified as sillimanite and kyanite; they are described as elongated and rounded single-crystal grains from which striae and waves protrude into the glass. Both minerals occur in the heavy fraction (isolated by sedimentation in CHBr<sub>3</sub>) of the glass sand of Novoselkovsk, which makes up about 0.12% of the total. In this heavy mineral fraction were detd. (in percentage of this fraction) sillimanite 28.9, staurolite 24.0, kyanite 14.4, rutile 9.8, titanite 0.2, anorthite 0.1, tourmaline 15.0, zircon 3.5, andalusite 0.4, and ores 4.3%. Crystal-glass compns. of different SiO<sub>2</sub> and PbO contents behaved differently concerning the speed of soln. of the Al silicate stones; a glass with 90.4% SiO<sub>2</sub> could not dissolve them completely if the temp. was raised to 1475° for 8 hrs. Increasing the alkali to 18%, and reducing SiO<sub>2</sub> to 65% were not sufficient. However, 19% alkalies and 82.5% SiO<sub>2</sub> produced a pure glass. Similar difficulties were observed in Pb-free K-silicate glass melts with 72% SiO<sub>2</sub>, but not in Na-Ca silicate glasses which dissolved the sillimanite-kyanite stones much more easily. The ratio Na<sub>2</sub>O:K<sub>2</sub>O in Pb crystal glass detd. the rate of soln. If PbO and SiO<sub>2</sub> were maintained const. at 18% and 66%, resp.,

W. Eitel

SIMELEVA, N. A.

USSR/Miscellaneous Glass manufacture

Card 1/1 : Pub. 104 - 8/12

Authors : Shmeleva, N. A.

Title : Struggle for increase in output and quality improvement of lead crystals

Periodical : Stek. i ker. 9, 23 - 27, September 1954

Abstract : Suggestion for increasing the output and quality improvement of lead crystals used in the manufacture of artistic glass and chinaware. Tables; diagram; illustrations.

Institution : ....

Submitted : ....

SHMELEVА, N.A.; SEMESEKINA, A.V.

Using Volkhov potash in producing lead crystal. Leg. prom. 18 no.1:  
39-41 Ja '58.  
(MIRA 11:2)  
(Glass manufacture)

SOV/72-59-1-3/16

15(6)  
AUTHORS:

Shmeleva, N. A., Kotova, T. S.

TITLE:

Protective Coatings for Glass-Melting Crucibles (Zashchitnye pokrytiya na steklovarennykh gorshkakh)

PERIODICAL: Steklo i keramika, 1959, Nr 1, pp 8-11 (USSR)

ABSTRACT: During its long experience the Leningradskiy zavod khudozhestvennogo stekla (Leningrad Works of Artistic Glass) has found that glass-melting crucibles when used for melting lead glass last less than when used for melting calciferous sodium glass and can be used for 15 to 18 melting processes. This is due to the formation of vertical cracks in the inner crucible zone. For the test described in this article 200-1 crucibles of druzhkovskiy clay and fire clay were used which had been produced from a mass of clay and fire clay in the ratio of 1 to 4 by a pneumatic pounding method. The tests showed that the cracking of the crucibles mainly depends on the glass composition and the contact formations. The table shows the typical compositions of manufactured glass and its cracking tendency. Figure 1 shows a micro-photograph of the contact formations on the crucible walls on melting lead glass and figure 2 on melting calciferous sodium glass. Already in earlier papers

Card 1/2

Card 2/2

ACCESSION NR: AT4019309

S/0000/63/003/001/0159/0161

AUTHOR: Shmeleva, N. A.; Chistoserdov, V. G.; Gerasimova, A. I.

TITLE: The effect of dilute hydrofluoric acid solutions on lithium silicates

SOURCE: Simpozium po stekloobraznomu sostoyaniyu. Leningrad, 1962. Stekloobraznoye sostoyaniye, vy\*p. 1: Katalizirovannaya kristallizatsiya stekla (Vitreous state, no. 1: Catalyzing crystallization of glass). Trudy\* simpoziuma, v. 3, no. 1. Moscow, Izd-vo AN SSSR. 1963. 159-161, insert facing page 163

TOPIC TAGS: glass, photosensitivity, ultraviolet light, crystalline phase glass, crystallization, photosensitive glass, hydrofluoric acid, silicate, lithium silicate

ABSTRACT: The solubility of some photosensitive glass in hydrofluoric acid depends on previous exposure to ultraviolet light. In view of the practical importance of this problem, the crystalline phases which result in increased solubility in hydrofluoric acid were studied.

Card 1/2

ACCESSION NR: AT4019309

A photosensitive glass with 8%  $\text{Al}_2\text{O}_3$  in the form of 20 x 20 x 0.5 mm plates was used as the test sample. HF solubility was studied on samples crystallized for 2 hours at a temperature of 500-800C with 50° intervals, the difference in weight being determined before and after a 50-minute treatment with 10% HF solution. The relative solubility data for the crystalline phases (most probably eucryptite, lithium metasilicate, lithium disilicate, spodumene,  $\alpha$ -cristobalite, and quartz) was obtained by treating a finely ground sample (0.5 g) for one hour in 50 cc of 1% hydrofluoric acid at 20C with stirring. The rate of dissolution of the irradiated, crystallized samples was 6-10 times higher than that of the nonirradiated samples. Electron micrographs of samples crystallized at 600C showed (X18000) clear striation even on 1-micron crystals. The limited range of increased solubility of irradiated and crystallized glasses in 10% HF solution must be attributed to conversion into a solid solution, the thickening of its structure and the concentration of cristobalite along the cracks due to shrinkage in the crystal. Orig. art. has 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 17 May 63

SUB CODE: MT

DATE ACQ: 21 Nov 63

NO REV SOV: 000

ENCL: 00

OTHER: 000

Card 2/2

S/0000/63/003/001/0068/0073

ACCESSION NR: AT4019287

AUTHOR: Shmeleva, N. A.; Ivanova, N. M.

TITLE: Lithium-containing glass and some peculiarities in its crystallization

SOURCE: Simpozium po stekloobraznomu sostoyaniyu.. Leningrad, 1962. Stekloobraznoye sostoyaniye, vy\*p. 1: Katalizirovannaya kristallizatsiya stekla (Vitreous state, no. 1: Catalyzing crystallization of glass). Trudy\* simpoziuma, v. 3, no. 1. Moscow, Izd-vo AN SSSR, 1963, 68-73, insert page facing p. 73

TOPIC TAGS: glass, glass crystallization, lithium glass, silicate glass, binary system, photosensitive additive, irradiation, microcavity

ABSTRACT: The crystallization of three different types of lithium glass starting with the binary system Li<sub>2</sub>O-SiO and gradually adding photosensitive additives (Ag+CeO<sub>2</sub>, K<sub>2</sub>O, Al<sub>2</sub>O<sub>3</sub>) was investigated by the thin layer method in ultraviolet light. Investigation of the crystallization process on small glass fragments made it possible to study the formation of microcavities produced by gas bubbles, larger cavities and intermediate dendritic structures. The

Card 1/2

ACCESSION NR: AT4019287

presence of expansion microzones was demonstrated in which the material breaks to form microcavities. In the expansion zones, the nature of the crystallization shifts slightly toward the formation of solid solutions with increased SiO<sub>2</sub> content of the liberation of free SiO<sub>2</sub>. By introducing photosensitive additives (Ag+CeO<sub>2</sub>) into glass, the finest distribution of the gas cavities or expansion microzones can be assured throughout the glass. This effect was obtained during crystallization in an irradiated glass with 20% Li<sub>2</sub>O, but in another glass the effect was obtained only after crystallization with preliminary irradiation. The fine distribution of gas cavities in the crystalline substance is the reason for brown colors of different intensities in the fragments. This gives the impression of a 'black' substance and its mobility during the displacement of the expansion zones. The crystallization of SiO<sub>2</sub> in the form of cristobalite, tridymite or quartz proceeds inside the gas cavities, and preliminary irradiation causes the crystallization equilibrium to shift toward a higher quartz content. Orig. art. has: 5 figures and 4 tables.

ASSOCIATION: none

SUBMITTED: 17May63

DATE ACQ: 21Nov63

ENCL: 00

SUB CODE: MT

NO REF SOV: 001

OTHER: 000

Card 2/2

SHMELEVA, N.A.; CHISTOSENDOV, V.G.; GERASIMOVA, A.I.

Effect of diluted solutions of hydrofluoric acid on lithium silicates.  
Stekloobr, sost. no.1:159-161 '63. (MIRA 17:10)

ACCESSION NR: AT4019310

S/0000/63/003/001/0161/0164

AUTHOR: Chistoserdov, V. G.; Shmeleva, N. A.; Serdyuk, A. M.

TITLE: A study of the crystallization products in the magnesium aluminosilicate system with additions of titanium dioxide

SOURCE: Simpozium po stekloobraznomu sostoyaniyu. Leningrad, 1962. Stekloobraznoye sostoyaniye, vyshp. 1: Katalizirovannaya kristallizatsiya stekla (Vitreous state, no. 1: Catalyzing crystallization of glass). Trudy simpoziuma, v. 3, no. 1. Moscow, Izd-vo AN SSSR, 1963, 161-164

TOPIC TAGS: glass, glass crystallization, magnesium aluminosilicate, cordierite, geikielite, clinoenstatite, titanium dioxide, catalyzed crystallization

ABSTRACT: The crystallization products of glasses of the  $MgO-Al_2O_3-SiO_2-TiO_2$  system and the effect of  $TiO_2$  addition were studied. The dynamics of the formation of crystalline phases were investigated by high-temperature x-ray analysis. The test sample was glass 59 with the composition 61.4%  $SiO_2$ , 18.3%  $Al_2O_3$ , and 20.3%  $Na_2O$  plus 0.25% silica. Ionization curves were plotted for noncrystalline, crystalline, and quenched glasses at different temperatures. Both ionization curves and thermograms were also recorded for glass 59 containing 10%  $TiO_2$ . It was found

Card 1/2

SHMELEVA, N.A., inzh.

New method of improving the quality of glass. Stek. i ker.  
21 no. 7:11-14 J1 '64. (MIRA 17:10)

1. Leningradskiy zavod khudozhestvennogo stekla.

SHMELEVA, N.A., inzh.; IVANOVA, L.F.

Aggressiveness of lead crystal glass in relation to grog. Stek.  
i ker. 22 no.2:II-13 F '65. (MIRA 18:3)

1. Leningradskiy zavod khudozhestvennogo stekla i sertovoy posudy.

SHMEELEVA, N.I.

Reaction of the hemopoietic system to surgical intervention in  
irradiated animals [with summary in English]. Med.rad. 4 no.2:  
55-59 F '59. (MIRA 12:4)

1. Iz eksperimental'nogorakovogo otdela (zav. - starshiy nauchnyy  
sotrudnik S.N. Aleksandrov) TSentral'nogo nauchno-issledovatel'-  
skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookh-  
raneniya SSSR.  
(SURGERY, OPERATIVE,  
reactions of hemopoietic organs to extra-hemo-  
poietic surg. in irradiated animals (Rus))  
(HEMOPOIETIC SYSTEM, physiol.  
same)  
(ROENTGEN RAYS, effects,  
same)